

IT IS CLAIMED:

1. A screw gun for driving a fastening means comprising:

a driving unit having a driver and a guide post connected thereto,

a camming means located on said guide post,

a cartridge holder slidably affixed to said guide post and constructed to receive a cartridge containing a plurality of fastening means.

2. A screw gun in accordance with claim 1 further comprising a cartridge rotatably supported by said cartridge holder.

3. A screw gun in accordance with claim 2 wherein said cartridge comprises a rotatable housing having a plurality of chambers for releasably holding said fastening means and having a means for indexing said cartridge.

4. A screw gun in accordance with claim 3 wherein said indexing means further aligns said cartridge in said cartridge holder.

5. A screw gun in accordance with claim 3 wherein said indexing means comprises outwardly extending ribs between each of said chambers.

6. A screw gun in accordance with claim 5 wherein said chambers include a plurality of fingers for releasably holding said fastening means.

7. A screw gun in accordance with claim 6 wherein said fingers have a free end and a bound end.

8. A screw gun in accordance with claim 7 wherein said fingers include of first tapered portion and a second tapered portion constructed and arranged for holding said fastening means.

9. A screw gun in accordance with claim 8 wherein said fingers further include a groove between said first and second tapered portions.

10. A screw gun in accordance with claim 9 further including a plurality of fasteners in said cartridge.

11. A screw gun in accordance with claim 10 wherein said fasteners are hex-head screws.

12. A screw gun in accordance with claim 3 further comprising a plurality of fasteners in said cartridge.

13. A screw gun in accordance with claim 12 wherein said fasteners are hex-head screws.

14. A screw gun in accordance with claim 1 wherein said driver includes a socket for mating with the head of said fastening means.

15. A screw gun in accordance with claim 14 wherein said fastening means is a hex-head screw.

16. A screw gun in accordance with claim 1 wherein said cartridge holder comprises a housing having a front cover plate, a rear cover plate, and a pocket in said housing for receiving a cartridge having a plurality of fastening means.

17. A screw gun in accordance with claim 16 wherein said pocket further includes an inner pocket wall and said inner pocket wall having an indexing means connected thereto and constructed and arranged for communication with said camming means in said guide post.

18. A screw gun in accordance with claim 17 wherein said indexing means comprises a sleeve having a cam follower.

19. A screw gun in accordance with claim 17 wherein said indexing means comprises a sleeve having a cam follower, an oscillating plate and a cam plate.

20. A screw gun in accordance with claim 19 wherein said indexing means further includes a pawl means housed in said oscillating plate and a spring means constructed and arranged for controlling rotation of said oscillating plate.

21. A screw gun in accordance with claim 17 wherein said indexing means includes a pin means and a pawl means for automatically aligning said cartridge in said screw gun.

22. A screw gun in accordance with claim 17 wherein said indexing means comprises a sleeve through which said guide post passes through, a cam follower which cooperates with said camming means of said guide post, and a pin means and a pawl means which extend through said inner pocket wall into said pocket whereby said indexing means

function to automatically align said cartridge and to index said cartridge.

23. A screw gun in accordance with claim 17 further comprising a cartridge rotatably supported by said cartridge holder.

24. A screw gun in accordance with claim 23 wherein said cartridge comprises a rotatable housing having a plurality of chambers for releasably holding a fastening means and having an outwardly extending rib between each of said chambers.

25. A screw gun in accordance with claim 24 wherein said chambers include a plurality of fingers for releasably holding said fastening means.

26. A screw gun in accordance with claim 25 wherein said fingers include of first tapered portion and a second tapered portion constructed and arranged for holding a fastener.

27. A screw gun in accordance with claim 26 further comprising a groove between said first and second tapered portions.

28. A screw gun in accordance with claim 27 further comprising a plurality of fasteners in said cartridge.

29. A screw gun in accordance with claim 28 wherein said fasteners are hex-head screws.

30. A screw gun in accordance with claim 23 wherein said cartridge includes a plurality of fasteners.

31. A screw gun in accordance with claim 30 wherein said fasteners are hex-head screws.

32. A screw gun having a cartridge holder and a rotatable cartridge for insertion therein said cartridge comprising a housing having a plurality of chambers for releasably holding a fastening means and having means for indexing said cartridge in said cartridge holder.

33. A screw gun in accordance with claim 32 wherein said means for indexing said cartridge comprises an outwardly extending rib extending between each of said chambers.

34. A screw gun in accordance with claim 32 wherein said means for indexing said cartridge comprises a ratcheting means.

35. A screw gun in accordance with claim 32 wherein said chambers include a plurality of fingers for releasably holding said fastening means.

36. A screw gun in accordance with claim 35 wherein said fingers further include a first tapered portion and a second tapered portion constructed and arranged for holding a fastener and a groove between said first and second tapered portions.

37. A screw gun in accordance with claim 36 further including a plurality of fasteners in said cartridge.

38. A screw gun in accordance with claim 37 wherein said fasteners are hex-head screws.

39. A screw gun in accordance with claim 32 further including a plurality of fasteners in said cartridge.

40. A screw gun in accordance with claim 39 wherein said fasteners are hex-head screws.

41. A screw gun in accordance with claim 32 wherein said cartridge has eight chambers.

42. A screw gun in accordance with claim 32 wherein said cartridge has ten chambers.

43. A screw gun in accordance with claim 32 wherein said cartridge is made from plastic.

44. A screw gun having a cartridge holder for supporting and indexing a cartridge containing a plurality of chambers for fastening means, said cartridge holder having:

a pocket adapted for supporting said cartridge,  
a passage for receiving a driver of said screw gun, and  
means for aligning a chamber of said cartridge with said driver passage.

45. A screw gun in accordance with claim 44 wherein said means for aligning a chamber of said cartridge with said driver passage comprises a pin means and a pawl means.



46. A screw gun in accordance with claim 45 wherein said cartridge holder further includes a means for indexing said cartridge within said cartridge holder.

47. A screw gun in accordance with claim 46 wherein said cartridge holder further includes a front cover plate and a rear cover plate.

48. A screw gun in accordance with claim 47 wherein said pocket is defined by said front cover plate and an inner pocket wall.

49. A cartridge for a screw gun comprising a rotatable housing having a plurality of chambers for releasably holding a fastening means and having means for indexing the cartridge in a cartridge holder.

50. A cartridge in accordance with claim 49 wherein said means for indexing the cartridge in the cartridge holder comprises an outwardly extending rib between each of said chambers.

51. A cartridge in accordance with claim 50 wherein said chambers include a plurality of fingers for releasably holding said fastening means.

52. A cartridge in accordance with claim 51 wherein said fingers have a free end and a bound end.

53. A cartridge in accordance with claim 52 wherein said fingers include of first tapered portion and a second tapered portion constructed and arranged for holding said fastener means.

54. A cartridge in accordance with claim 53 wherein said fingers further include a groove between said first and second tapered portions.

55. A cartridge in accordance with claim 54 further including a plurality of fasteners in said cartridge.

56. A cartridge in accordance with claim 55 wherein said fasteners are hex-head screws.

57. A cartridge in accordance with claim 49 which further includes a plurality of fasteners in said cartridge.

58. A cartridge in accordance with claim 57 wherein said fasteners are hex-head screws.

59. A method of loading a fastening means into a driver of a screw gun having a cartridge holder, said method comprising the steps of:

inserting a cartridge having a plurality of chambers with fastening means therein into the cartridge holder slidably attached to said screw gun, and

aligning a first chamber of said cartridge with said driver through an interaction between an indexing means of said cartridge holder with an indexing means of said cartridge, and

pumping said cartridge holder, thereby loading a fastening means from said first chamber into said driver.

60. The method of claim 59 wherein said cartridge includes a rotatable housing having a plurality of chambers for releasably holding said fastening means and means for indexing said cartridge.

61. The method in accordance with claim 60 wherein said means for indexing said cartridge comprises an outwardly extending rib between each of said chambers.

62. The method in accordance with claim 59 wherein said indexing means comprises a pawl means and a pin means.

63. The method in accordance with claim 59 wherein during the pumping of the cartridge holder the driver passes through the cartridge and prevents rotation of the cartridge and provides a means for cocking the indexing mechanism to load a second fastening means.

64. A method of inserting a fastening means into a work piece from a screw gun, said method comprising the steps of:

inserting a cartridge containing a plurality of fastening means into a cartridge holder of said screw gun;  
automatically aligning a chamber of said cartridge with a driver of said screw gun;  
inserting a fastening means from said cartridge into said driver by pumping said cartridge holder, and  
inserting said fastening means into a workpiece.

65. The method in accordance with claim 63 wherein the chambers of said cartridge include a plurality of fingers for releasably holding said fastening means.

66. The method in accordance with claim 64 wherein said fasteners are hex-head screws.

67. The method in accordance with claim 63 wherein said indexing means comprises a pawl means and a pin means.

68. A screw gun in accordance with claim 1 further comprising means for automatically sliding said cartridge holder on said guide post.